

INCREASING CARRIER MOBILITY IN NFET AND PFET
TRANSISTORS ON A COMMON WAFER

ABSTRACT OF THE DISCLOSURE

Enhanced carrier mobility in transistors of
differing (e.g. complementary) conductivity types is
achieved on a common chip by provision of two or
more respective stressed layers, such as etch stop
5 layers, overlying the transistors with stress being
wholly or partially relieved in portions of the
respective layers, preferably by implantations with
heavy ions such as germanium, arsenic, xenon,
indium, antimony, silicon, nitrogen oxygen or carbon
10 in accordance with a block-out mask. The
distribution and small size of individual areas of
such stressed structures also prevents warping or
curling of even very thin substrates.